

SPECIES PROFILE

American Woodcock

Scolopax minor

Federal Listing: Not listed

State Listing: Not listed

Global Rank: G5

State Rank: S4

Author: Julie Robinson and Jim Oehler, New Hampshire Fish and Game

ELEMENT 1: DISTRIBUTION AND HABITAT

1.1 Habitat Description

Woodcock (*Scolopax minor*) are an early successional species that use different habitats depending on activity, time of day, and season. Dense, shrub-dominated forests with moist soils are ideal habitats (Keppie and Whiting 1994). Moist soils ensure that earthworms, which comprise nearly 80% of woodcock diet, are near the soil surface and are available to foraging birds (Dessecker and McAuley 2001).

In spring, males need openings (“singing grounds”) to perform courtship displays and attract females (Dwyer et al. 1988). Available nesting and rearing habitat determine the location of singing grounds rather than specific vegetation characteristics (Dessecker and McAuley 2001). Migrating and breeding woodcock favor areas of young aspen, birch, or alders and may also use overgrown fields, burned or recently logged areas, and wetlands (Lacaillade 1994). Nests and broods can be found in mixed-age forests, although young hardwood stands (especially aspen) are preferred (Mendall and Aldous 1943).

During summer, young hardwoods to older stands with a dense understory, particularly alder, provide daytime cover for feeding (Dessecker and McAuley 2001). In northern breeding areas, conifer stands are used rarely, except during droughts when they may be critical for survival (Straw et al. 1994). Diurnal habitats in fall and on migration are Young hardwood

stands on moist soils with dense shrubs are important in the fall and during migration.

1.2 Justification

Woodcock numbers in New Hampshire tend to be stable and relatively strong compared to data from other portions of the eastern United States. Survey results for 2004 were relatively close to those reported in 2003. Southeast New Hampshire continues to show an increase in singing males, although this could be attributed to favorable survey conditions. Woodcock are most abundant in northern New Hampshire, where habitat is most suitable.

Habitat loss and degradation contribute to declining woodcock populations elsewhere in the East. Studies suggest that ground-nesting songbirds may currently be experiencing low reproductive rates (Straw et al. 1994). Decline and fragmentation of early successional forests may be limiting woodcock recruitment (Dessecker and McAuley 2001).

1.3 Protection and Regulatory Status

Woodcock hunting is regulated in New Hampshire under the waterfowl regulatory process. The American Woodcock is protected under the Migratory Treaty Act.

1.4 Population and Habitat Distribution

Breeding woodcock are relatively common throughout New Hampshire at elevations below 2,000 ft (610 m), although their numbers have declined since the 1960s in eastern New Hampshire (Lacaillade 1994). Singing ground survey data indicate that New Hampshire’s highest woodcock concentrations occur in the west-central and southeast regions of the state and in northern Coos County (Lacaillade 1994). Historical

records for woodcock are vague. Since the woodcock is a small game bird, it was probably not hunted until larger game began to disappear (Silver 1957). Fishermen introduced earthworms to the Umbagog Region around 1825 for bait; woodcock were believed to have appeared there shortly afterwards and were common by the late 1800s (Silver 1957). Refer to element 1.4 in the ruffed grouse or shrubland profile for information on the abundance and distribution of habitat suitable for woodcock.

1.5 Town Distribution Map

Not completed for this species.

1.6 Habitat Map

No habitat map was generated for woodcock since habitat is difficult to map using existing remotely sensed data. Refer to element 1.6 in the ruffed grouse or shrubland profiles for more information.

1.7 Sources of Information

The primary source of information was the annual woodcock report compiled by the USFWS for those states that conduct annual singing ground surveys. Information was gleaned from this document through literature reviews, research projects conducted in the region, and available databases.

1.8 Extent and Quality of Data

The quality of population data for woodcock is very good, however, confirmed breeding records are difficult to obtain due to the species' inconspicuous nesting behavior (Lacaillade 1994). Singing ground surveys have been conducted since 1968 and summarized annually. Woodcock are managed on the basis of 2 regions or populations, Eastern and Central (Kelley 2004). There is a wing-collection survey of hunters that provides age-specific data used to assess reproductive success (Kelley 2004). The ratio of immature birds per adult female in the harvest provides an index to recruitment of young into the population (Kelley 2004). Many studies on brood ecology, early successional habitat, and influence of hunting have been completed in the Northeast.

1.9 Distribution Research

Current mapping data and technology are inadequate for mapping woodcock habitat. Technologies that can assess differences in vegetation structure (e.g., radar, lidar) should be investigated and applied to generate a map of American woodcock habitat. Studies are needed to determine where early successional habitat exists and where it can be created and maintained.

ELEMENT 2: SPECIES/HABITAT CONDITION

2.1 Scale

Counties will be used as the conservation-planning unit for this habitat because that is the scale at which most information exists and because most technical and financial assistance (from the USDA Natural Resources Conservation Service (NRCS), University of New Hampshire Cooperative Extension, and others) is provided to private landowners by county.

2.2 Relative Health of Population

The singing ground surveys indicate that New Hampshire's highest breeding concentrations occur in the west central and southeastern regions of the state and in northern Coos County (Lacaillade 1994). The Singing-ground survey in the Eastern Region in 2004 was not significantly different than the 2003 level (Kelley 2004). In the Eastern Region, the 2004 breeding population index was 1.84 singing-males per route. This was higher than the predicted value of 1.70 (Kelley 2004). Northern New England, including New Hampshire, has experienced an increase in the breeding population indices over the past 5 years of the singing ground survey. This could be due in part to favorable weather during the surveying season.

For the wing-collection survey, the recruitment index in the Eastern Region (1.5 immatures/adult female) was slightly higher than the 2003 index, but was 12% below the long term (1963-2002) average (Kelley 2004). In 2004, New Hampshire showed a statistically insignificant increase in the recruitment index. New Hampshire's Breeding Bird Atlas reveals that woodcock are still well distributed throughout the state, and suggests that they are most common in the central and southeast regions (Lacaillade 1994).

Elsewhere in the Eastern region, population abundance indices suggest a long-term decline (Kelly 2004). Loss and degradation of wetlands have destroyed breeding, migration, and wintering habitat (Lacaillade 1994). Pesticides have affected the earthworm populations in many areas, decimating the woodcock's primary food source (Lacaillade 1994).

2.3 Population Management Status

Reliable annual population estimates, harvest estimates, and information on recruitment and distribution are essential for comprehensive woodcock management.

2.4 Relative Quality of Habitat Patches

Refer to element 2.4 in the ruffed grouse and shrubland profile for information on relative quality of habitat patches for American woodcock.

2.5 Habitat Patch Protection Status

Since no habitat map was generated, the habitat patch protection status of young forest habitats in New Hampshire is unknown. However, given the ephemeral nature of young forest habitats, tree harvesting and other vegetation manipulation techniques will need to be employed to generate suitable habitat. This can occur on both public and private land.

2.6 Habitat Management Status

See section 2.6 in the Shrubland profile.

2.7 Sources or Information

Sources of information for element 2 include journal articles, websites, GIS data, and white papers.

2.8 Extent and Quality of Information

The extent and quality of data for woodcock population information are quite good. However, information on habitat abundance and distribution is lacking.

ELEMENT 3: SPECIES THREAT ASSESSMENT

3.1.1 Development (Habitat Loss and Conversion)

Refer to "Development (Habitat Loss and Conversion)" threat in the ruffed grouse profile.

3.1.2 Altered Natural Disturbance (Natural Succession)

Refer to threats in the ruffed grouse profile.

ELEMENT 4: CONSERVATION ACTIONS

4.1.1 Habitat Conservation, Habitat Protection

Refer to "Habitat Conservation, Habitat Protection" strategy in the ruffed grouse profile.

4.1.2 Vegetation Management, Restoration, and Management

Refer to "Vegetation Management, Restoration and Management" strategy in the ruffed grouse profile. In addition to the strategies outlined in the ruffed grouse profile, protection and maintenance of scrub-shrub wetlands will be important for maintaining woodcock populations in New Hampshire. This can be done by maintaining natural establishment, occupancy, and abandonment of beaver flowages (see strategies in the Marsh and Shrub Wetlands profile). In some instances, regeneration of alder stands may be necessary.

ELEMENT 5: REFERENCES

- Dessecker, D.R., and D.G. McAuley. 2001. Importance of early successional habitat to ruffed grouse and American woodcock. *Wildlife Society Bulletin* 29(2):
- Dwyer, T.J., D.G. McAuley, and E.L. Derleth. 1983. Woodcock singing-ground counts and habitat changes in the northeastern United States. *Journal of Wildlife Management* 47:772-779.
- Hart, B., and D. Tripp-Taylor. 2002. Saving special places: Community funding for land conservation. Society for the Protection of New Hampshire Forests and Center of Land Conservation Assistance.
- Kelley, J.R. Jr. 2004. American Woodcock population status, 2004. United States Fish and Wildlife Service, Laurel, Maryland, USA.

- Keppie, D.M., and R.M. Whiting, Jr. 1994. American Woodcock (*Scolopax minor*). In The Birds of North America, No. 100, A. Poole and F. Gill, editors. Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Lacaillade, H.C. 1994. American Woodcock. Pages 90-92 in Atlas of Breeding Birds in New Hampshire, C.R. Foss, editor. Arcadia, Dover, New Hampshire, USA.
- Mendall, H.L., and C.M. Aldous. 1943. The ecology and management of the American woodcock. Maine Cooperative Wildlife Research Unit. University of Maine, Orono, Maine, USA.
- Silver, H. 1957. A History of New Hampshire game and furbearers. New Hampshire Fish and Game Department, Survey Rep 6. Concord, New Hampshire, USA.
- Straw, J.A., D.G. Krementz, M.W. Olinde and G.F. Sepik. 1994. American woodcock. Pages 97-114 in Migratory shore and upland game bird management in north America, T.C. Tacha and C.E. Braun editors. International Association of Fish and Wildlife Agencies, Washington D.C, USA.